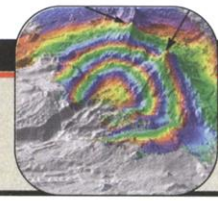
PAGE 1279
New home for research chimps



1281
Volcanic bull's-eye in Oregon

INTELLECTUAL PROPERTY

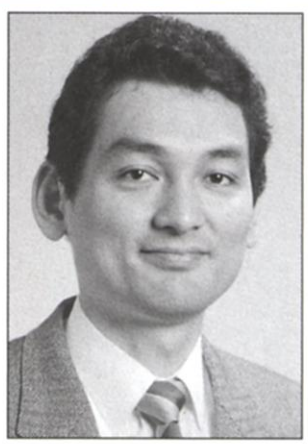
Alzheimer's Researcher in Japan Accused of Economic Espionage

WASHINGTON, D.C., AND TOKYO—Scientists who study Alzheimer's disease were shocked last week to learn that the U.S. Justice Department has indicted one of their colleagues, Takashi Okamoto, for conspiring "to benefit a foreign government" and "steal" trade secrets. Okamoto's peers, who describe him as brilliant but eccentric, are puzzled by the severity of the charges involving material that appears to have no commercial value.

The Japanese-born Okamoto is accused of stealing cell lines and DNA samples from a laboratory at the Cleveland Clinic Foundation in Ohio, where he worked from 1997 to 1999, and taking them to a new job at the Institute of Physical and Chemical Research (RIKEN) near Tokyo. The indictment says that his goal was "to ensure that RIKEN acquired a competitive advantage over" U.S. scientists studying Alzheimer's disease. The charges, based on the Economic Espionage Act of 1996, depend in part on RIKEN's status as a government entity. The economic espionage charge carries a maximum penalty of 15 years in prison.

Academic researchers often take reagents with them when they move to another lab. But Okamoto violated community norms, according to the indictment, by removing materials without permission, substituting fake samples, and abruptly quitting his job at the clinic's Lerner Research Institute (LRI). If Okamoto had asked, says institute director George Stark, he would have received permission to take samples, because "that's standard procedure." Stark says Okamoto's research at the institute had produced no patentable discoveries.

At LRI, Okamoto studied cell signaling and cell death in connection with Alzheimer's disease. The federal indictment, issued 8 May by a grand jury in Cleveland, charges that he, with the help of two friends, removed reagents from LRI and transported them to Japan. A third friend, Hiroaki Serizawa, a researcher at the University of Kansas Medical Center in Kansas City, denied involvement but was arrested as a co-conspirator. Okamoto remains free in Japan.



International flap. Takashi Okamoto has been charged with illegally taking cell lines when he moved from the Cleveland Clinic Foundation (*top*) to RIKEN (*left*) in Japan.

The problems at LRI came to light, according to Stark, after postdocs in Okamoto's lab complained that "reagents were missing or didn't work." The institute conducted its own investigation and called in local police, who "decided the FBI needed to be involved," Stark says. He adds that "it was important that we report an infraction of the law appropriately, regardless of the consequences." Stark says Okamoto was "quite productive before and after" his arrival at LRI, although Stark adds that work in his lab "came to a complete stop" after the reagents disappeared.

According to the indictment, Okamoto and a "Dr. A" removed some cell lines and DNA samples from LRI and destroyed others on the night of 8 July 1999. Okamoto allegedly stored four boxes of reagents at the home of a "Dr. B," where Okamoto was living temporarily. The indictment says Okamoto shipped the materials to Serizawa in Kansas City, abruptly resigned his post, and began work at RIKEN. He returned to Kansas City on 16 August 1999, according to the indictment, to retrieve the reagents and take them to RIKEN.

Masao Ito, president of RIKEN's Brain Science Institute, says he was astonished when he heard the charges against Okamoto, a research group leader there. "We had never received any contact from [LRI], the FBI, or the U.S. Department of Justice," he says. According to Ito, Okamoto has followed a completely different line of research since moving to RIKEN, involving the role of cholesterol metabolism in the production of the plaque that is one of the neuropathological hallmarks of Alzheimer's disease. "His current research is just beginning to go well," Ito says.

Okamoto, who went on leave after the indictment was handed up, could not be reached for comment. His attorney, Brent Gurney of the Wilmer, Cutler, & Pickering law firm in Washington, D.C., says Okamoto did not transport "any genetic material" to RIKEN and is innocent. Gurney says that repeated requests to address the government's concerns were spurned. RIKEN officials say Okamoto had informed his boss in fall 1999 of the investigation. "But we had thought it was strictly a private matter," Ito says.

Okamoto seems unlikely to face trial unless he is extradited to the United States. Serizawa was arrested in Kansas City on 10 May and is expected to appear shortly in federal court in Cleveland. His attorney, Jean Paul Bradshaw of the Lathrop and Gage law firm in Kansas City, says his client "absolutely denies the charges" and is "very surprised, because we cooperated with the investigation and hadn't heard from the government for a year."

Okamoto's motivation and the fate of the samples remain a mystery. Kiyoshi Kurokawa, dean of Tokai University School of Medicine in Hiratsuka and one

CREDITS: (LEFT) ITSUO INOUYE/AP; (TOP) CLEVELAND CLINIC

of his former professors, says Okamoto may not have been "socially mature enough" to seek advice on handling materials in his lab. Okamoto has told RIKEN officials that he did not bring any samples from the United States to Japan, let alone into the RIKEN labs. RIKEN is trying to trace the origin of all materials in Okamoto's lab; Ito says that, so far, it has not found any evidence of U.S. materials.

Ito and other RIKEN officials are particularly chagrined at the accusation that RIKEN acted as an agent of the Japanese government for economic espionage. "We have operated with extraordinary openness," he says. RIKEN conducts collaborative research projects with institutions throughout the world, Ito says, and nearly a quarter of its 245 researchers are non-Japanese. "I am seriously worried about this incident having an impact on RIKEN's image," he says.

–ELIOT MARSHALL AND DENNIS NORMILE

THE POSTGENOMIC ERA

Windfall for European Data Bank

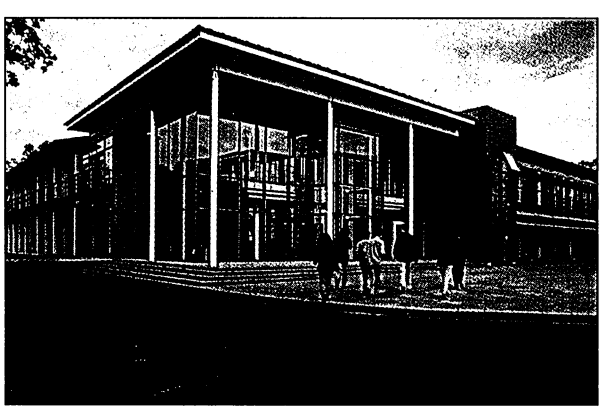
PARIS—The European Union has come to the rescue of the continent's premier repository of DNA and protein sequence information. As *Science* went to press, the E.U. was preparing to announce that it would help provide a roughly 50% boost in the $11 million annual budget of the European Bioinformatics Institute (EBI). The cash injection, to come over the next 3 years, will fund four new projects, including repositories of data from "gene chips" and protein-protein interactions. These projects, in turn, will help provide much-needed operating funds for EBI.

This is the second major piece of good news that the financially troubled EBI, located near Cambridge, U.K., has received in the past 6 months. Last December, the governing council of the European Molecular Biology Laboratory in Heidelberg, Germany—EBI's parent organization—agreed to bail out the institute after E.U. officials had decided to stop funding routine operating costs for a number of European research centers (*Science*, 5 November 1999, p. 1058, and 8 December 2000, p. 1869). "This is a day for celebration," says EBI co-director Graham Cameron. "It is the biggest dollop of money ever put into [European] bioinformatics infrastructure."

The groundwork for the E.U.'s generosity was laid last November, when Philippe Busquin, research commissioner at the European Commission—the E.U.'s executive wing—earmarked $22 million for genome projects involving databases and animal disease models. This week's announcement that a significant chunk of these funds will go to the EBI represents a partial relaxation of spending rules that some scientists feel are too stringent. "The struggle has been to fund research proposals that are not directly linked to the simple maintenance of databases," explains Carlos Martinez-Riera of the research directorate. Indeed, both E.U. and EBI officials stress that the money was awarded only after the EBI and other partners submitted proposals for new programs rather than for ongoing costs. Although the philosophy behind the funding rules has not changed, Martinez-Riera says, the new EBI funding in practice will help sustain the institute. "We have met each other in the middle," he says.

The E.U. money will fund four new projects: a database for information derived from "DNA arrays," which monitor the expression of thousands of genes at once; a data bank of three-dimensional protein structures; a database of biochemical interactions between proteins; and a project to integrate several existing EBI databases so that researchers can conduct more sweeping searches. The EBI, slated to receive $11.3 million for these projects over the next 3 years, will carry them out in collaboration with 30 other labs in 11 European countries. EBI's partners will share an additional $5.7 million in E.U. funding.

"This kind of science creates its record in electronic form," says Cameron. The E.U. funds, he says, should better position EBI to "carry on its crucial role as a custodian of this record." –MICHAEL BALTER



CREDITS: (TOP TO BOTTOM) CHRISTINE NESBITT/AP; DOUG YOUNG/EMBL

Halcyon days. After months of uncertainty, the European Bioinformatics Institute is at last on firm financial footing.

CLIMATE CHANGE

17 National Academies Endorse Kyoto

As the Bush Administration dithers over what it might do to address global warming, 17 national academies of science decided to cut to the chase in an editorial in this week's *Science*. Affirming the Intergovernmental Panel on Climate Change's (IPCC's) conclusion that human activities are warming the planet, the statement urges those with "doubts"—by implication, the United States—to ratify the Kyoto Protocol, which would impose binding limits on greenhouse gas emissions by industrialized countries (see p. 1261). Robert May, president of the Royal Society of the United Kingdom, which organized the statement, says it was partly provoked by Bush's recent rejection of the Kyoto treaty, along with resistance to the Kyoto terms from countries such as Australia.

Advocate. Robert May helped organize the collective statement.

Notably absent from the list of signers is the U.S. National Academy of Sciences (NAS). It was invited to sign, but the NAS board felt it could not endorse a document it did not help draft on a few days' notice, says F. Sherwood Rowland, NAS foreign secretary. According to several sources, the statement's explicit backing for the Kyoto Protocol was a problem. The protocol is "regulatory, not science," Rowland says. The academy, moreover, is conducting its own expedited review of the IPCC report and did not want to be seen to prejudge the outcome.